

Executive Overview

Distributed Processing Services in the New Telecomputing Environment

INPUT®



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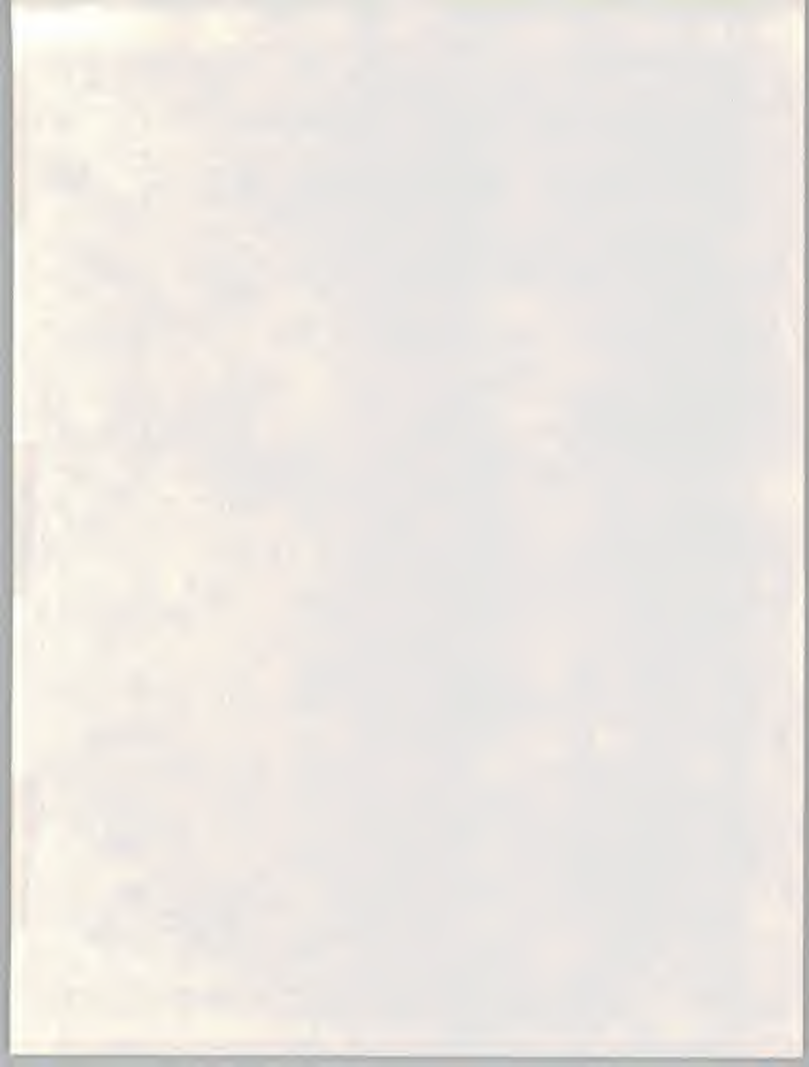
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To Our Clients:

This summary is an excerpt from a full research report, Distributed Processing Services in the New Telecomputing Environment, issued as part of INPUT's Information Systems Program (ISP). A complete description of the program is provided at the end of this Executive Overview.

If you have questions or comments about this report, please call INPUT at (415) 960-3990 and ask for the Client Hotline.



REPORT ABSTRACT

Distributed Processing Services (DPS) is defined as "the placement of user-dedicated computers which share processing with vendor machines at either the user's or vendor's site."

Expanded from user site hardware services (USHS), the method offers powerful remote computing service (RCS) software for execution on the vendor's computers, along with other vendor services such as communications and data bases.

This report examines the role of DPS and its place between full RCS usage and internal processing solutions. The report also examines associated issues such as linking user processors of all sizes to RCS services.

Included is an analysis of user needs, case studies, and participating vendor profiles. The study concludes with detailed recommendations.

OVERVIEW CONTENTS

Remote Computing Service History	1
RCS Vendor Responses	3
Distributed Processing Services Bridge Options	5
DPS Benefits/Disadvantages	7
Why Vendors Offer DPS	9
DPS Mostly Fills Transitional Needs	11
Table of Report Contents	13
List of Report Exhibits	17
Program Description	18



A. REMOTE COMPUTING SERVICE HISTORY

- Computer timesharing systems were developed in the 1950s to support military needs. Data communications, an essential component of remote computing, was also evolving during this period.
- Processing power became more affordable in the late 1960s and early 1970s with the introduction of minicomputers, originally designed for scientific and engineering needs and later adapted to office systems and production processing.
- With minicomputers came distributed processing, connecting multiple minis to a central host and used initially for transaction processing. Later came desktop processing with the now nearly ubiquitous microcomputer and associated software designed for end users rather than computer professionals.
- Essentially, a triad internal processing environment evolved: end-user micro-based computing, office systems, and production data processing.
- Generally, these domains developed separately, with separate staffs and different hardware, software, and service vendors for each environment. Later, users and vendors recognized that integrating the three systems would lead to greater efficiencies and other benefits. For many, however, integration would be (and still is) difficult.
- Meanwhile, RCS vendors began to experience declining growth and eroding profits as processing migrated from a service mode to internal systems. Many RCS firms recorded alarming losses and were forced to change.

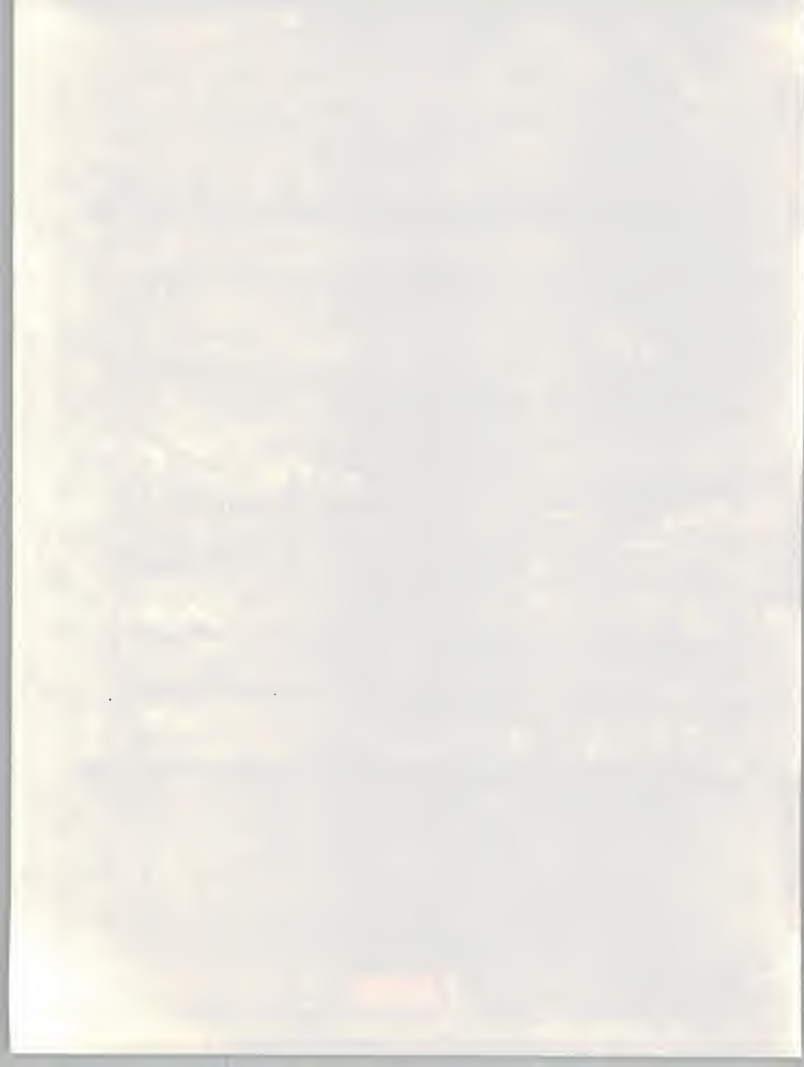


REMOTE COMPUTING SERVICE HISTORY

- 1950s - Military Timesharing and Data Communications

 - 1960s - Business Remote Computing
 - Commercial Services Introduced

 - 1970s - Minis, DDP, and Micros Appear
 - Distributed Processing Services Introduced
-



B. RCS VENDOR RESPONSES

- RCS vendors responded to the changing environment in several ways:
 - Some shifted their focus to selling the software which was previously accessed via timesharing. Initially this meant mainframe software, but it became software on all levels.
 - Some vendors introduced turnkey systems, bundling hardware and software to provide customers with processing similar to that available on-line.
 - Some vendors leveraged their expertise in designing, configuring, installing, maintaining, and managing information service facilities to offer professional services beyond processing. In some instances, processing services were deemphasized or even discontinued.
 - Some vendors targeted niches which were too small for competitive hardware vendors or rival RCS firms to address, particularly when industry- or function-specific software was needed.
 - Some vendors joined others through mergers and acquisitions to build critical mass in attempts to survive.
 - Others vendors repackaged their services to incorporate micro-computers or other processors into the service mix.
- The most successful vendors became "service conglomerates" offering a range of professional services, processing, communications, software, and/or hardware solutions to their customers.

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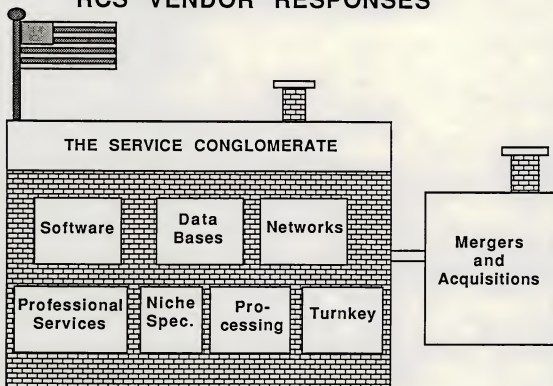
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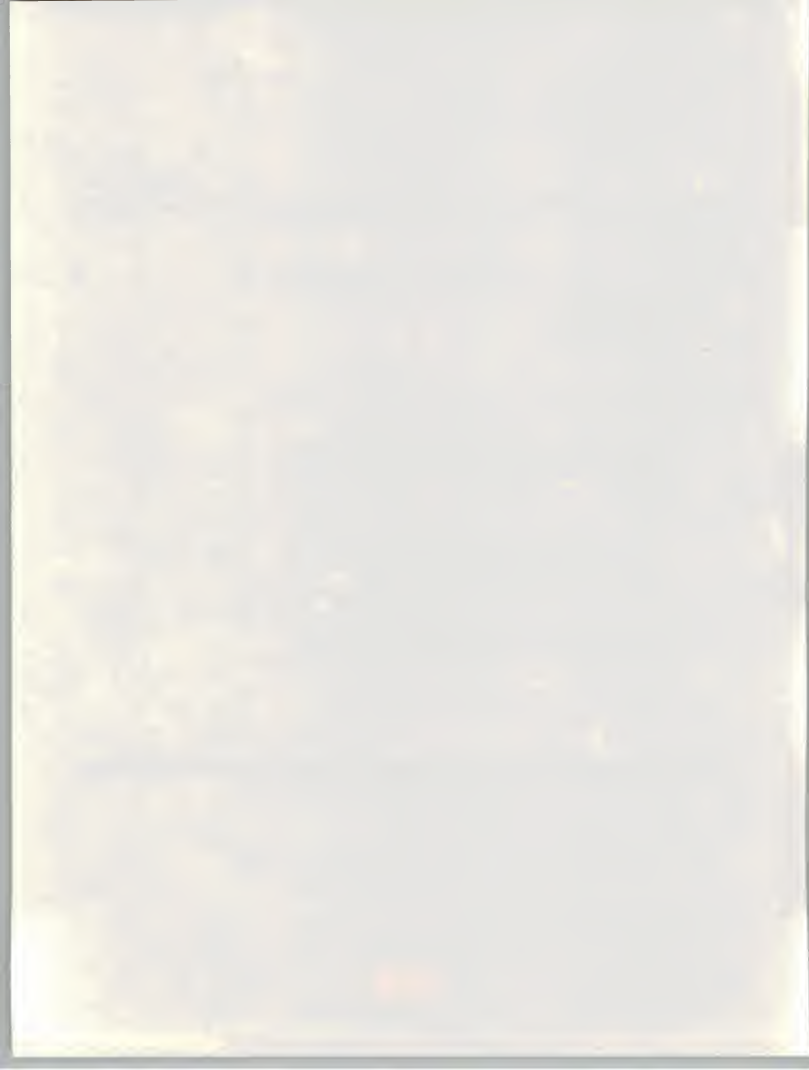
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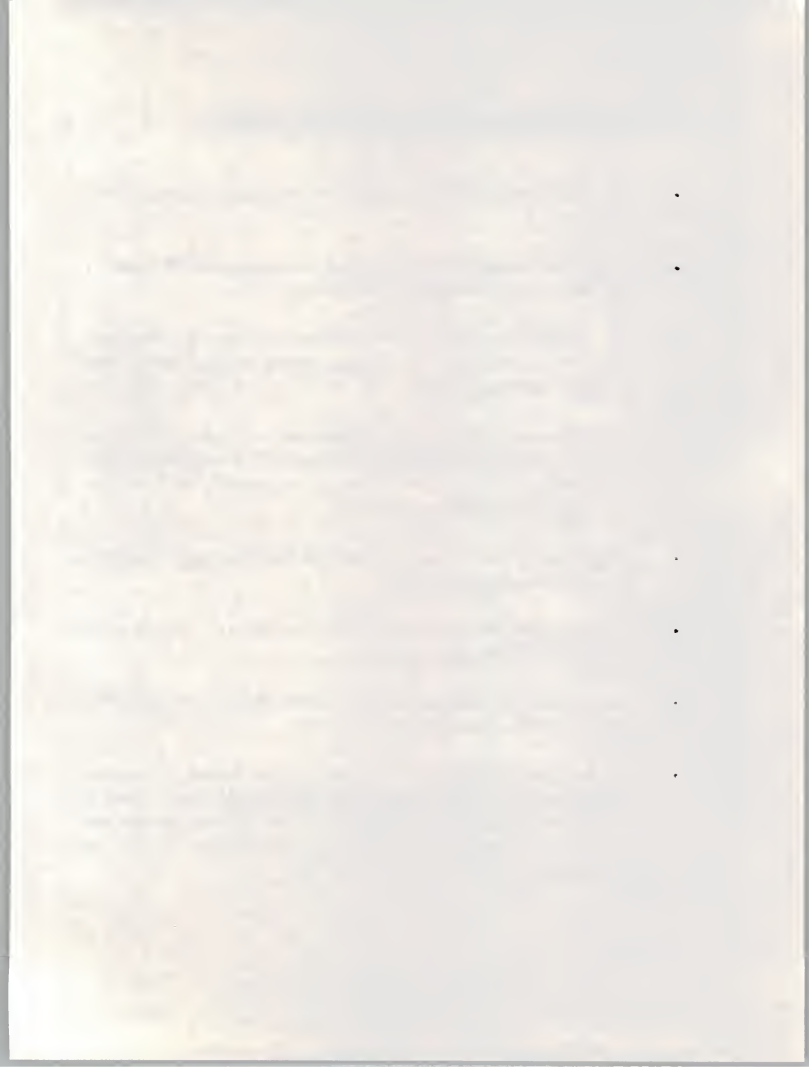
RCS VENDOR RESPONSES



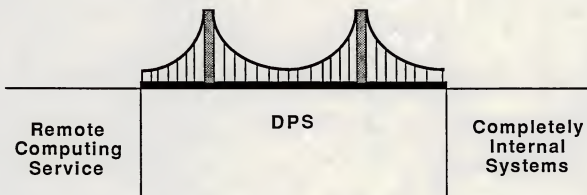


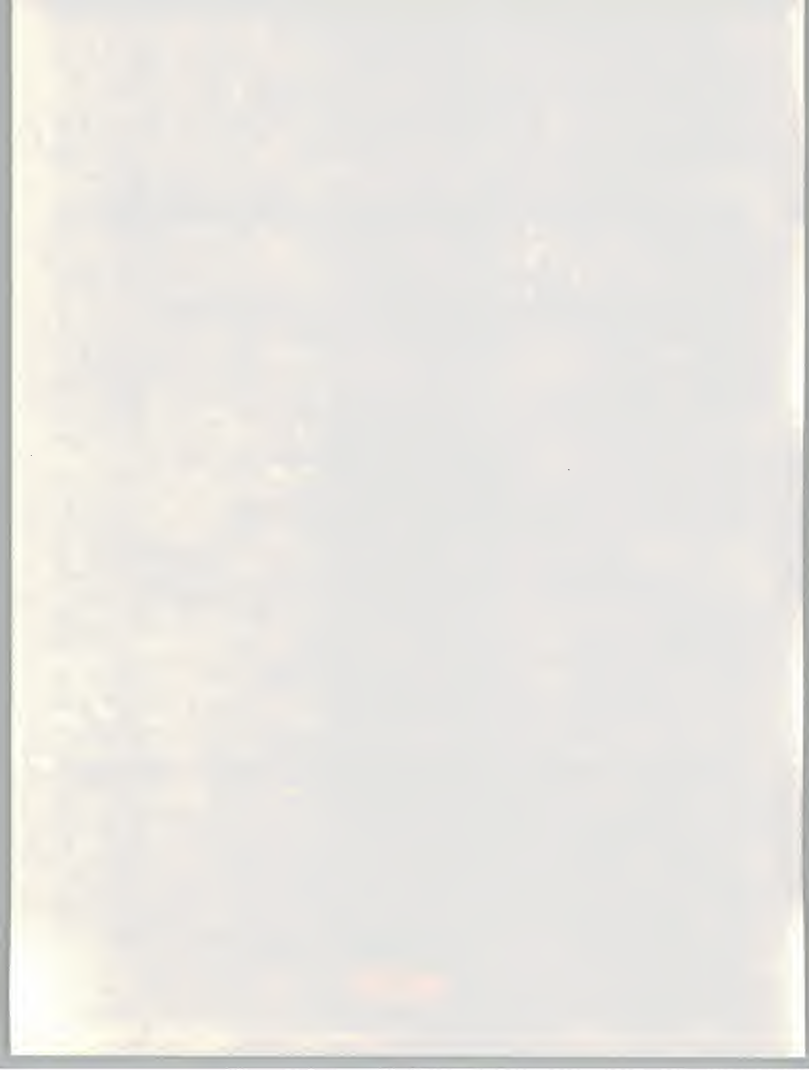
C. DISTRIBUTED PROCESSING SERVICES BRIDGE OPTIONS

- One RCS response to industry change was distributed processing services (DPS).
- A distributed processing service is defined as processing via RCS computers and user-dedicated computers at the user or vendor sites.
 - When first introduced, user site hardware costs were bundled in a fixed price contract; currently, however, vendors encourage users to take title to the equipment.
 - This report focuses on minicomputer-based DPS since this was the original configuration offered. However, DPS configurations can be based on microcomputers (standalone or clustered), multiuser micro systems, or even mainframes.
- DPS provides a bridge for customers weaning themselves from RCS services and bringing applications in-house.
- Early DPS participants were ADP (Onsite), General Electric (Mark III DDP), and National CSS (now D&B Computing).
- Later entries in DPS include Control Data Corporation (Distributed Services) and Shared Medical Systems (Action).
- Key features of DPS are user-dedicated processors hosting RCS-provided applications. This processor is linked to the RCS. The link supports access to infrequently used applications, data bases, and communications services such as E-mail. It is also used for overload and peak processing, data transfers, and equipment monitoring.



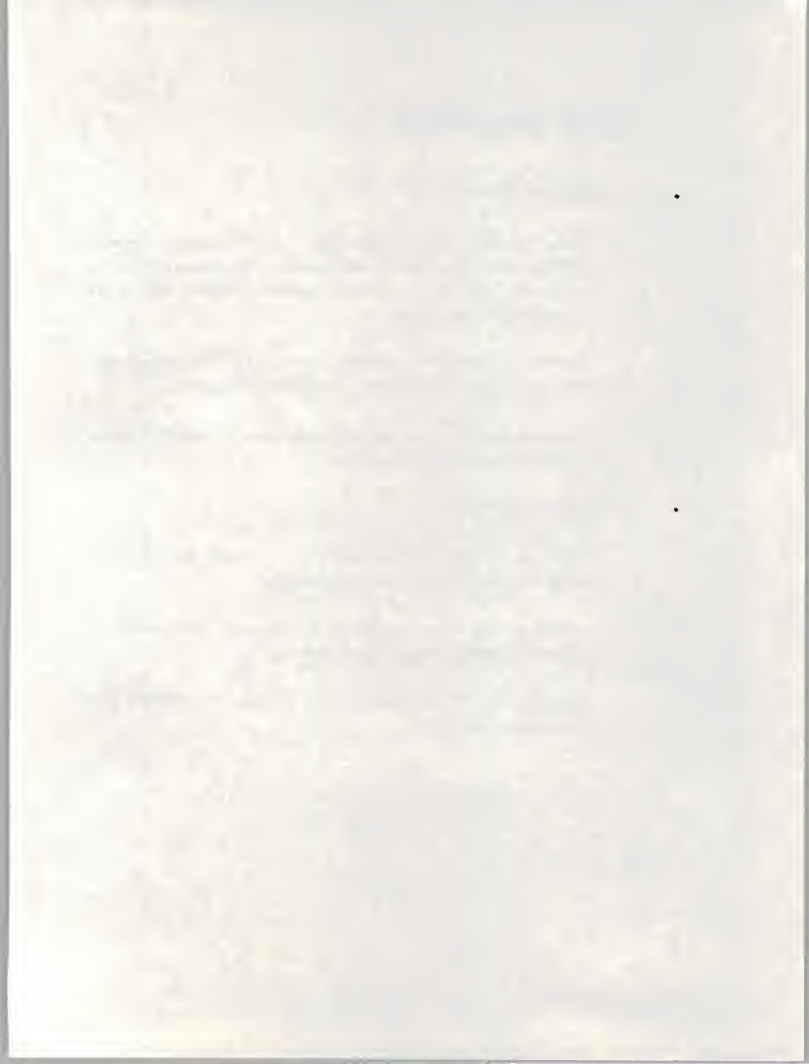
DISTRIBUTED PROCESSING SERVICES BRIDGE OPTIONS





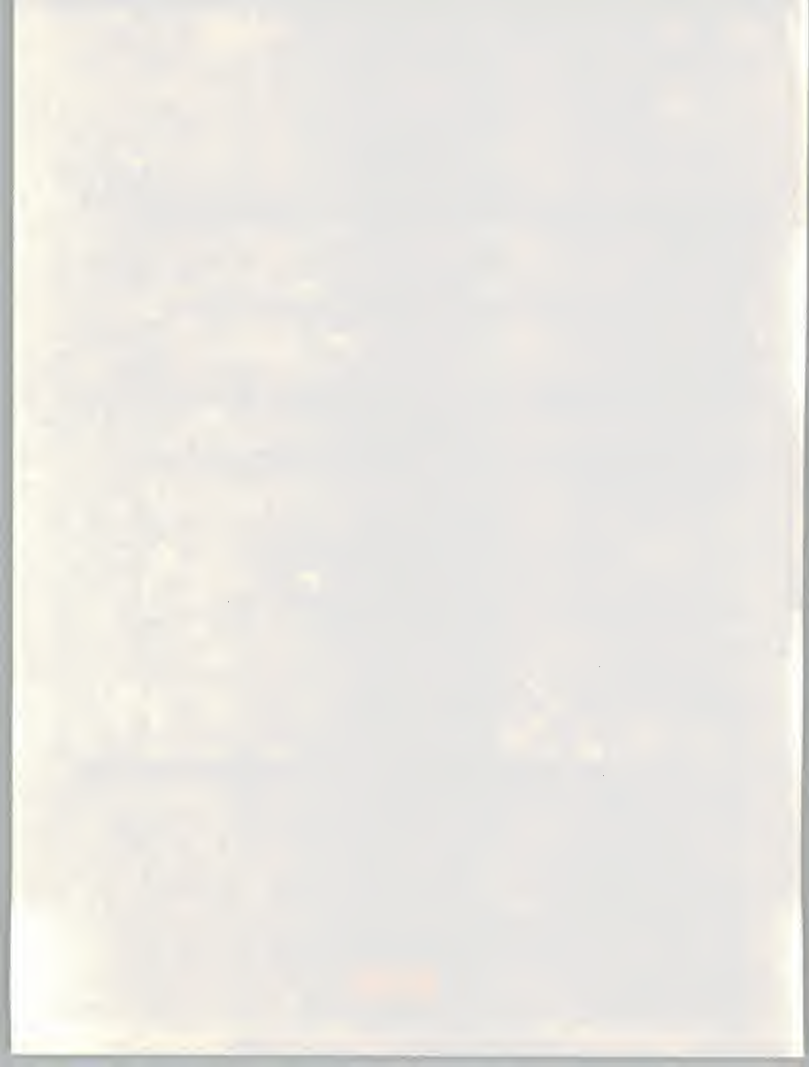
D. DPS BENEFITS/DISADVANTAGES

- The benefits of DPS are:
 - Access to significant and specialized RCS applications, high-power processors, equipment (such as high-speed printers, plotters, or mailing equipment), and services (such as consulting, communications, and customized programming).
 - Better control over RCS processing costs due to fixed-price contracts with discounts provided on other, not included, RCS services.
 - An economical way to test new applications or equipment before committing resources to buying them.
- The disadvantages of DPS are:
 - For large companies with constant use of the same applications, in-house IS departments are more cost effective.
 - Loss of control. A user organization is at the mercy of the vendor; any equipment failures are beyond the user's control.
 - Redundancy. The company's internal systems may duplicate some supported by the DPS.



DPS BENEFITS/DISADVANTAGES

BENEFITS	DISADVANTAGES
<ul style="list-style-type: none">● Access to RCS<ul style="list-style-type: none">- Applications, Equipment, Data Bases, Services● Fixed Price● Does Not Require IS Staff	<ul style="list-style-type: none">● Internal Systems May Be More Cost Effective● Loss of Control● May Be Redundant



E. WHY VENDORS OFFER DPS

- Vendors offer DPS primarily to maintain a customer considering migration to an internal system, away from RCS services.
- By bridging these customer options, the user enjoys support during what may be a difficult conversion period, and the vendor/client relationship can be extended.
 - The RCS vendor first licenses applications on a timeshared basis, then provides them via DPS delivery mode, and finally makes them available on the customer's equipment.
 - Further, the RCS vendor hopes to continue to provide other services such as communications, data bases, overload processing, and professional services.
- Other equally important reasons include:
 - High profit margins. Because the client performs most of the work involved, DPS configurations require little vendor support. Understanding this becomes important in negotiating contracts with vendors.
 - The vendor's desire to participate in distributed data processing and decentralization trends. Originally, DPS was seen as supporting multiple sites of the same client.
- The most successful DPS placements are in end-user departments receiving little IS support or in settings without an extensive IS organization.

25 July 1945

Dear Mr. [Name]

I have just received your letter of the 24th inst.

and am sorry to hear that you are having trouble

with your [subject]

I am sure that you will find the enclosed

of interest to you

I am, Sir, very respectfully,

Yours faithfully,

[Signature]

WHY VENDORS OFFER DPS

- Fills Gap Between Full RCS Services and Wholly Internal Solutions
 - High Profit Margins
 - Alternative Delivery Mode
 - Expands Service Options, Product Mix
 - Participation in DDP/Decentralization Trends
-

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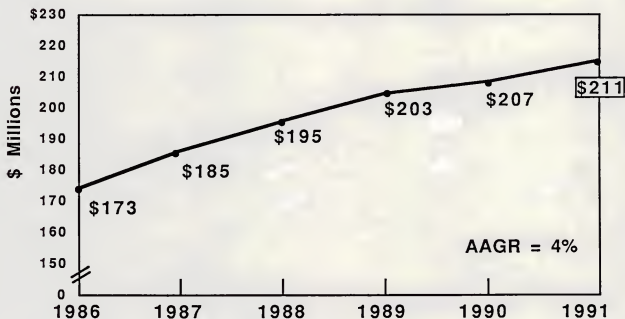
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F. DPS MOSTLY FILLS TRANSITIONAL NEEDS

- INPUT estimates that the minicomputer-based distributed processing services currently represent a \$173 million market.
- INPUT also projects that the market for DPS will be relatively flat, with a projected growth rate of a marginal 4% annually through 1991.
 - New customers will avoid or replace DPS services by taking their processing in-house.
 - Growth will mostly occur in the hospital segment, the commercial banking segments, and the general business middle market, with some installations found within larger corporations supporting specialized applications or remote locations.
- This bearish forecast does not necessarily mean that DPS is an unsuitable service configuration for users. It does, however, underscore that DPS is primarily a bridging service which permits the vendor and client to participate jointly in the transition between full RCS-supported services and an internal IS solution.
- DPS can also support, on a long-term basis, function-specific departmental needs in non-IS environments, such as small- to medium-sized health care and financial institutions, and in marketing organizations.



A FLAT MARKET FILLING TRANSITIONAL NEEDS





DISTRIBUTED PROCESSING SERVICES IN THE NEW TELECOMPUTING ENVIRONMENT

CONTENTS

	<u>Page</u>
I INTRODUCTION	1
A. Background	1
B. Methodology	3
C. Scope	4
II EXECUTIVE SUMMARY	7
A. Remote Computing Service History	8
B. RCS Vendor Responses	10
C. Distributed Processing Services Bridge Options	12
D. DPS Benefits/Disadvantages	14
E. Why Vendors Offer DPS	16
F. DPS Mostly Fills Transitional Needs	18
III DISTRIBUTED PROCESSING OVERVIEW	21
A. Historic Development of RCS	21
B. Minicomputers and Distributed Data Processing (DDP)	22
C. Enter the Microcomputer	23
D. The Triad Processing Environment	23
E. Strategies - The Vendors Respond	25
F. Current RCS Applications and Delivery Modes	26
G. DPS Targets Three Types of Users	28
H. Current DPS Applications	30
I. Emerging DPS Applications	32
1. Electronic Data Interchange (EDI)	32
a. EDI Defined	32
b. EDI Service Vendors	33
c. EDI and DPS	33
2. On-Line Data Bases	34
a. Importance	34
b. Front-End Trends in OLDB	34
c. OLDB and DPS	36
J. Industry-Specific Applications	37
1. Banking and Finance	37
a. Overview	37
b. RCS Usage and DPS Implementations	37
c. DPS in Banking and Finance	38



	<u>Page</u>
2. Medical Industry	39
a. Overview	39
b. Market Segmentation	39
c. Market Characteristics	40
d. RCS Usage	40
e. Distributed Processing Services in the Medical Industry	41
f. Directions	42
3. Telecommunications	42
a. Overview	42
b. RCS Usage	43
c. Distributed Processing Services in Telecommunications	44
IV TECHNOLOGY, TRENDS, AND ISSUES IMPACTING DPS.....	47
A. Vendor Approaches to Technology	47
B. Technology Alternatives	48
1. Hardware	48
a. Microcomputers	48
b. Vendor Responses to Microcomputers	50
i. Defensive Strategies	50
ii. Offensive Strategies	51
c. Multiuser Micro Systems	52
d. Vendor Views toward Micros	52
e. Minicomputers	53
f. Mainframes	54
g. Supercomputers	54
i. Overview	54
ii. Applications	54
iii. Needs for Commercial DPS/Supercomputer	55
RCS Offerings	55
iv. Issues	56
h. Optical Computers	59
i. Optical Disk Storage	59
2. Software	60
3. Communications	60
a. Wide Area Networks	60
b. Local Area Networks (LANs)	61
c. Micro/Mainframe (MM)	62
d. SNA Enhancements	62
V USER PERSPECTIVES ON THE RCS/DPS MARKETPLACE	65
A. User Views and Needs	65
1. Why Use Distributed Processing Services?	65
2. Disadvantages of Distributed Processing Services	66
3. Centralized versus Decentralized	67
4. Applications Required	71
5. Processing Power Required	71



	<u>Page</u>
6. Service/Support and Use of Consultants	71
7. Bundled versus Unbundled	73
8. Cycles/Timing	76
B. User Concerns	76
1. Vendor Viability a Key Concern	76
2. Network Availability	77
3. Security	77
4. IBM Compatibility	78
5. Vendor's Industry Knowledge	78
6. OS Environments Preferred	78
7. Command Structures	80
8. Emotional Factors	80
9. Personnel Factors	82
C. The Distributed Processing Services Elements	82
D. Flat Growth, But DPS Has An Important Role	83
E. Profit Margins	85
F. The Trend Toward User DPS Equipment Ownership	87
VI DISTRIBUTED PROCESSING SERVICES CASE STUDIES	89
A. A Hospital Group	89
B. A Small Bank	93
C. From Internal, to Timesharing, to DPS, and Back Again	94
D. A DPS Application Falls into Disuse	97
E. A Lumber and Paper Products Company	98
F. An Airline Competes with DPS	101
G. Case Study Analysis	103
VII CORPORATE PROFILES	107
A. Distributed Processing Service Vendors - General Business	108
1. Automatic Data Processing, Inc. (ADP)	108
a. Background	108
b. Onsite	108
c. Datasite	109
d. Strategies	109
2. Control Data Corporation (CDC)	109
a. Distributed Service	109
b. Decimus	113
c. Other Distributed Processing Services	114
d. Strategies	115
3. Crowntek Communications, Inc.	116
a. Background	116
b. Dedicated Processing	117
c. Strategies	118
4. General Electric Information Services Company (GEISCO)	118
a. Background	118
b. Mark III DDP	118
c. Strategies	119



	<u>Page</u>
B. Industry-Specific DPS or DPS-Like Services	120
1. American Hospital Supply	120
2. Baeing Computer Services Company (BCS)	120
3. Cabledata	122
4. McDonnell Douglas Health Systems Company (MDHSC)	122
a. Background	122
b. DPS Offerings	123
c. Strategies	123
5. National Data Corporation (NDC)	124
a. Background	124
b. DPS Offerings	124
c. Strategies	125
6. Shared Medical Systems Corporation	126
a. Background	126
b. DPS Offerings	126
c. Strategies	127
C. Potential DPS Providers and Other Configurations of Interest	129
1. Comshare Inc.	129
2. Computer Sciences Corporation	130
3. Digital Equipment Corporation (DEC)	131
4. Wang Information Services Corporation (WISC)	131
VIII RECOMMENDATIONS AND SUMMARY	135
A. A Shifting Orientation	135
B. Future DPS Implementations	137
1. Distributed Data Bases (DDB)	137
2. Value-Added Data Bases	138
a. Micro-Based Frontends	138
b. Optical Disk Data Base Systems	139
3. Health Care DPS Implementations	139
4. Electronic Data Interchange DPS Implementations	140
5. Scientific and Engineering DPS Needs	141
6. Geographical and Company Size Dynamics	141
C. User Recommendations	141
1. Evaluate Flexibility Needs	142
2. Cost Analysis	143
3. Personnel Factors	144
4. Service Requirements	144
5. IS As a DPS Vendor	144
D. In Conclusion	146
APPENDIX A: USER QUESTIONNAIRE	147
APPENDIX B: VENDOR QUESTIONNAIRE	155
APPENDIX C: RELATED INPUT REPORTS	163



DISTRIBUTED PROCESSING SERVICES IN THE NEW TELECOMPUTING ENVIRONMENT

EXHIBITS

		<u>Page</u>
II	-1 Remote Computing Service History	9
	-2 RCS Vendor Responses	11
	-3 Distributed Processing Services Bridge Options	13
	-4 DPS Benefits/Disadvantages	15
	-5 Why Vendors Offer DPS	17
	-6 A Flat Market Filling Transitional Needs	19
III	-1 RCS Milestones	24
	-2 Comparing Data Processing Alternatives	29
	-3 DPS User Targets	31
	-4 On-Line Data Base Services User Expenditure Forecast By Market Segment, 1986-1991	35
	-5 Industry-Specific DPS	45
IV	-1 Net Installed Base of Microcomputers in the U.S. Business Market, 1985-1991	49
	-2 Supercomputing and DPS	58
V	-1 The Trend Toward Decentralization	68
	-2 Micro-Mainframe Impacts on Decentralization	69
	-3 Departmental Systems Will Expand Their Market Share	70
	-4 RCS Users: Application/Delivery Mode Importance	72
	-5 RCS Users' Integration Expectations	74
	-6 RCS Users' Use of Consultants	75
	-7 MVS/XA, VM, and UNIX Installations, 1986-1991	79
	-8 User RCS Concerns	81
	-9 DPS Forecast	84
	-10 DPS Bridges Options	86
VI	-1 Case Study Summary	104
VII	-1 CDC - BIS Distributed Service	112
	-2 Shared Medical Extended DPS	128
	-3 General Business Distributed Processing Services	133
VIII	-1 A Shift in Orientation	136
	-2 External versus Internal Distributed Processing	145



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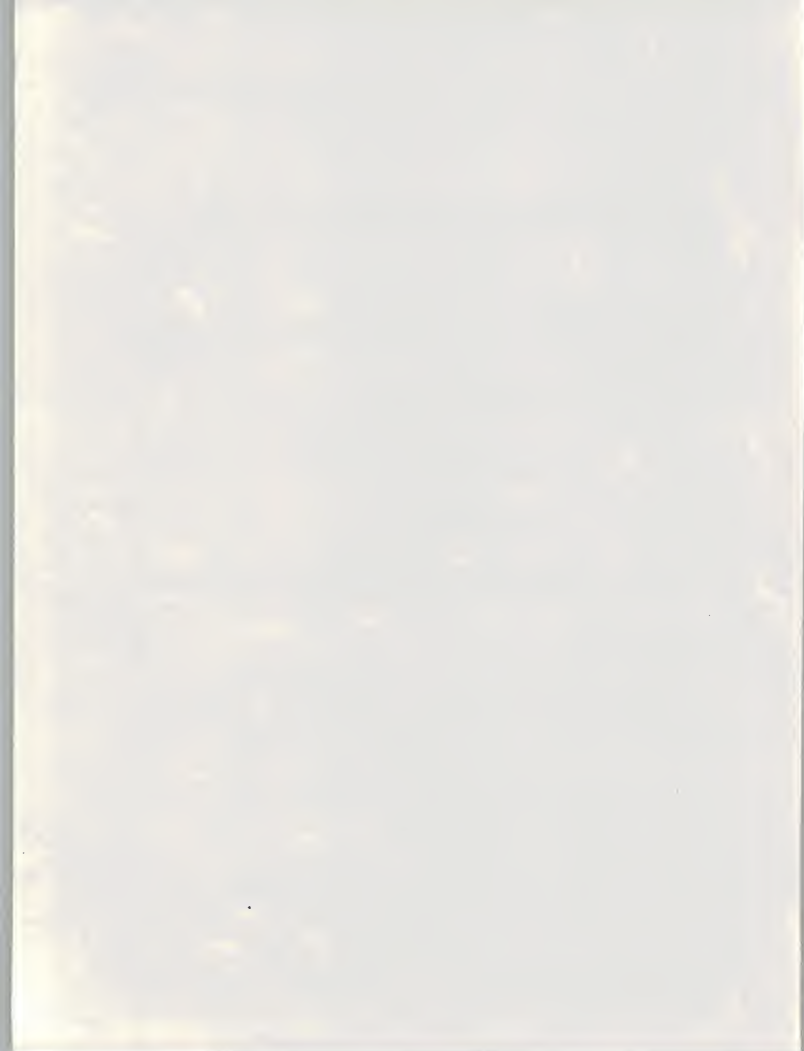
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